

CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

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COUNTRY East Germany

REPORT NO.

SUBJECT Construction and Planned Construction of Warnow Shipyard

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GENERAL

1. In conformance with the resolutions of the Five-Year-Plan, ships up to 9,500 tons were to be built by the shipyard. Investigations proved that the dimensions of the shipbuilding shop permitted the handling of 39,000 tons of material per year. The capacity of the shipbuilding shop corresponded directly to the building capacity of four building ways. The construction of four building ways was planned for the Five-Year-Plan. These building ways are shown on Enclosure (A), Point 1. See Enclosure (B), Building Ways Dimensions and Layout.
2. The shipyard was to be capable of building four vessels of type III, and four of type IV per year after the installation is completed.
3. I have prepared a sketch of the Warnow shipyard [see Enclosure (A)] on which the points indicated below are shown. A detailed description of many of these installations follows.

Point 1	Building ways	Point 4	Pre-assembly area
Point 2	Shipbuilding shop	Point 5	Plate storage
Point 3	Cable crane installation site	Point 6	Cranes for plate storage

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- Point 7 Transformer station
Point 8 Welfare building and kitchen
Point 9 Sewage disposal plant
 Completion and installation of pipes in 1952.
- Point 10 Dispensary, dressing rooms, lavatories
Point 11 Apprentice workshop (Finished by end of 1950)
Point 12 Two office buildings
Point 13 Shop No. 5 (Ship fitting and boiler smithy)
Point 14 Shop No. 6 (Welding)
Point 15 Shop No. 9 (Rigger and saddler)
Point 16 Shop No. 1 (Carpentry)
Point 17 Shop No. 2 (Marine and auxiliary engines)
Point 18 Shop No. 4 (Ship plumbing and mechanical workshops)
Point 19 Shop No. 7 (Electrical shop)
Point 20 Shop No. 3 (Pipefitter shop)
Point 21 Warehouse
Point 22 New boiler house
Point 23 Coal storage shed (In operation since end of 1951)
Point 24 Quay installations along bank of Warnow River
Point 25 Barrack city for 1,000
Point 26 Administration building
Point 27 Three shops
 Finished in the summer of 1950; housed diesel repair shop, boiler repair shop, mechanical workshop, etc., for ship repair.
- Point 28 Workshop
 In operation since summer of 1950. Accommodated repair shops of various kinds.
- Point 29 Small buildings and workshops (Formerly belonging to the Kroeger boatyard)
 Housed fire department, garages, lumber storage, kitchen facilities, etc.
- Point 30 Carpentry (In operation since summer of 1950)

LABOR FORCE

4. The approximate labor force engaged in new construction, employed in the various sections, was as follows:

<u>Shipyard Sections</u>	<u>1955</u>	<u>1960</u>
a. Shipbuilding shop	650	1,250
b. Pre-assembly area	400	750
c. Building ways	800	1,500
d. Plate and profile storage	30	50
e. Assembly and fitting-out shops	520	1,000
f. Mechanical workshop	140	250
g. Warehouse	100	200
h. Transportation section	260	500
i. Administration	500	1,000
Total:	3,400	6,500

5. Until 1955, when new construction was to become the main mission of the shipyard, the repair section was to employ a full strength of 6,200. Beginning in 1955, this total was to be slowly decreased to 3,100, and, at the same time, the labor force of the new construction sections was to be increased.

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FACILITIES

Shipbuilding Shop [Point 2, Enclosure (A)]

Dimensions

6. The shop covered an area of about 22,500 square meters. It was divided into four longitudinal compartments, each 25 meters wide. The shop compartments were designated A, B, C, and D counting from north to south. An annex, paralleling the entire shop and attached to it, was built to house offices, staircases to the pattern shop, and sanitary and other rooms pertaining to the shipbuilding shop. The staircases to the pattern shop were located in two towers at each end of the annex. The dimensions of the shop were as follows:

Length:	(In Meters)
overall length including towers	203.20
overall length without towers	201.20

Width:	
entire width including annex and towers	111.20
entire width including annex	109.20
width without annex	101.20

Height:	
shop compartment A,height of ridge	22.50
height of eaves	21.25
shop compartments B through D,height of ridge	18.30
height of eaves	17.05
height of towers; eight stories	25.00
height of annex; three stories	9.50

Arrangement of machine tools

7. Sheet metal working machines were mounted at the west end of shop compartments A and B. In compartment A, they occupied almost two-thirds of the entire length. In front of the shipbuilding shop, a distance of about six meters from compartment A and B, two plate rollers to handle all kinds of sheet metal were installed. The annealing furnace installation with an underneath space of 18 meters length, and all accessories ~~were~~ situated in shop compartment C. The available space in front of and to the side of the annealing furnace installation housed the frame drawing and bending bay, which occupied almost half of the entire length of the compartment.
8. Shop compartment D contained the angle forge with three forge fires and necessary accessories, as well as all machinery needed for machining profiles. The unused space accommodated the profile and beam drawing bay.

Welding bay

9. The rest of the shop served as a welding bay. First, the entire area was covered with cast swage blocks of 150 mm. thickness. There was a space of 700 mm. for the welding cables between the shop floor and the swage blocks. Ten transformers each were accommodated in supporting fields Nos. 4, 5, 7, and 8 of the welding bay at the south side of shop compartment D. Four transformers each were accommodated in supporting fields Nos. 2, 3, and 4 of the welding bay at the north side of shop compartment A.

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10. Cableways for the welding cables were installed in the shop floor. They were covered by a wooden planking which was 30 mm. thick. The surface of the latter was flush with the shop floor. The inside dimensions of the transverse and longitudinal cableways were 180 mm. in width and 100 mm. in depth.
11. The approximate welding bay space available in the shop compartments was as follows:

Shop Compartment	Welding Bay Space (in square meters)
A	1,300
B	2,200
C	2,200
D	2,200

Gates

12. On the west side, the shipbuilding shop had one gate of 5 x 5 meters for each of the shop compartments A, B, and D through which the transport from the plate and profile storage was over standard gauge rails. The length of the railroad spur in the shop was 14 meters. The rails were flush with the shop floor.
13. On the east side of compartments A through D, gates of 18 meters width and six meters height were installed. Personnel entrances were built within the gates.
14. A double-track railroad spur with an interval of five meters from spur to spur was built for each gate in order to transport the bulky prefabricated sections from the shipbuilding shop to the pre-assembly area. The railroad spurs ran 14 m. inside the shipbuilding shop. The double-track railroad spur within each shop compartment led into the transverse track of the swinging crane. The tracks were flush with the shop floor.
15. One gate of 4.5 x 4.5 meters was installed in each of the supporting fields Nos. 7 and 11 on the south side of the shipbuilding shop. A personnel entrance was available in supporting field No. 16.
16. Separate entrances for the office and other rooms in the annex were available.

Pattern shop

17. The pattern shop was situated above the entire shop compartment A, and was approximately 187.5 m. long, and 24 m. wide. A two-section transverse floor hatch of 6 x 2 meters was installed in the west corner over the sheet metal working area. Under the roof truss, an I-beam extending over the entire area of the pattern shop was mounted to support the trolley of an electrical lift with 500 kg. lifting capacity. The wooden floor was covered with a layer of absolutely dry wood of at least 70 mm. thickness.

Shop annex

18. Offices, lavatories, staircases, etc., were housed in the lateral annex (to the shop) consisting of a three-story center part and two eight-story towers at the east and west ends. The center was subdivided as follows:

First floor: Dressing rooms, lavatories, repair shop, electrical workshop, store room for electrodes and welding equipment, tool and drafting equipment distribution, dispensary, and garage.

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Second floor: Dressing rooms, lavatories, offices.

Third floor: Dressing rooms, lavatories, recreation rooms, food distribution office, a small canteen, office for political and cultural section, and a rest-room for women.

19. In the east and west towers, the staircases to the pattern shop, and personnel lifts (endless chain lifts) were mounted. Moreover they accommodated:

First to eighth floors: Offices of senior engineer, plant engineer, senior foreman, foremen, and assistants. Stenographers and clerks for shipbuilding shop, plate storage, forge, transportation section, warehouse, welding shop, building ways, pattern shop, planning office, schedule office, and work control.

20. At the wall between the shipbuilding shop proper, and on each floor of the center part of the lateral annex, an 1.8 meter wide and completely glassed hallway was situated from which the shipbuilding shop proper could be easily viewed.

Cranage installed in the shipbuilding shop.

21. Travelling cranes. A total of ten travelling cranes were mounted in the shipbuilding shop. All of these cranes were to have a span of 22.6 m. In the shop compartments A and B, a two-engine trolley (one of ten-ton and one of five-ton lifting capacity) was installed. Compartments C and D were furnished with one ten-ton and two five-ton cranes each.
22. Swinging cranes. In addition to the travelling cranes, about 22 swinging cranes of three-ton lifting capacity each and a maximum radial range of six meters were mounted on the support pillars near the machine tools and in the most important working areas of the shop. Swinging was done manually and covered a sector of 150 degrees. The two straightening rolls in front of the shipbuilding shop in the profile and plate storage area were furnished with one swinging crane of three-ton lifting capacity and a maximum radial range of eight meters each. The swinging cranes operated on roller bearings in order to facilitate swinging and were equipped with floor operated electrical hoists.

Pipelines and air conditioning in the shipbuilding shop

23. The following pipeline systems were installed in the shipbuilding shop:
- a. Compressed air line
 - b. Acetylene line
 - c. Oxygen line
 - d. Fluorescent gas line
 - e. Water line
 - f. Heating and condensation line

According to their function, the pipelines were installed in the areas of the shop where they were required for operations.

24. About 50 steam-heated air heaters (heating with circulating air) were installed for heating the shop. In order to prevent cold air circulation

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through open gates, a warm air heating system was installed underneath the gates. The skylights were equipped with heating coils against dripwater. The lateral annex was heated by radiators.

25. The heating system was designed to hold a temperature of ten centigrades above zero in the shop proper and 20 centigrades above zero in the annex.

Pre-assembly area /Point 4, Enclosure (A)/

26. The space between the shipbuilding shop and the buildingway was 160 m. long and was called the pre-assembly area. Prefabricated sections hauled from the shipbuilding shop were stored and assembled here into larger sections which were later delivered to the buildingway. In order to facilitate transverse movements of the sections brought here from the shop, a transverse operating crane installation was provided. It was completely paved at the end of 1952.

Crane installation

27. A mobile swinging crane permitted the transverse transport of bulky welded sections up to 20 tons in the pre-assembly area. The rails paralleled the east side of the shipbuilding shop. The crane was driven by a diesel-electric motor in order to avoid a sliding contact system. Details regarding this mobile swinging crane are as follows:

Lifting capacity	20.0 tons
Radial range	16.0 meters
Height of pulley	18.0 meters
Height of trolley	14.0 meters
Lift	15.0 meters
Gauge	6.0 meters
Wheel base	8.0 meters
Diameter of rin-rail (sic)	6.3 meters
Diameter of eight rollers	0.63 meters each
Diameter of eight travelling wheels	0.8 meters each
Diameter of trunnion pin	0.2 meters
Lifting speed	v=4 meters/minute
Travelling speed	v=25 meters/minute
Swinging speed	v=0.8 times minute
Engine 18 KVA, n = 1,000, 15 % ED	
Engine 32 KVA, n = 1,000, 40 % ED	
Engine 25, KVA, n = 1,000, 40 % ED	
Propelling engine (diesel engine) N = 100 HP	

Building ways /Point 1, Enclosure (A), Enclosure (B)/

28. The four buildingways were of equal size:

Length of building way at mean water level	160 meters
Length of breast	60 meters
Total length	220 meters
Width of each building way	26 meters

29. Buildingway No. 1 was finished by the end of 1951, and building way No. 2 was finished by mid 1952. Although the construction of building ways No. 3 and 4 had begun in 1951, construction work was stopped after the breast had been completed. This may have been due to a shortage of steel, which might also be the reason that buildingways No. 1 and 2 were still unused. Ships up to 10,000 GRTs could be built on buildingways No. 1 and 2.

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30. The following launchings were possible for each buildingway:

For large vessels: Two main launchingways with their middle line 3.4 meters distant from the middle line of the buildingway, i.e. a total of 6.8 meters.

For small vessels: Another 4.5 meters apart, a second launchingway which made it possible to lay down one large or two small vessels abreast at one time.

31. The front edge of the breast to the buildingway reached as far as three meters below meanwater. Mean water was about 2.2 meters below ground. The upper edge of the buildingway was 5.8 meters above ground; thus, the difference in height was 11.0 meters. The buildingway was the prolongation line of the shipbuilding shop, thus, rendering possible a smooth flow of operations. The inclination ratio of the buildingway was 1:20. Two buildingways were combined to form one area. Along their entire length, they were solely separated by an expansion joint. The entire area measured 160 x 52 meters. The breast to the buildingway, however, consisted of but one single lumber grating.

Weight of launchingways

32. Weight figures for a vessel of the type IV laid down:

Vessel proper	4,800 tons
Ways	200 tons
Construction weights	200 tons
Sliding carriage	200 tons
Personnel	100 tons
Tools and devices	100 tons
Total weight of launchingway about	5,600 tons

Ways

33. A ship was to be laid down on 60 ways in three rows, i.e. one center keel way and two lateral ways seven meters distant from the centerline of the ship. The ways were to measure 1.5 x 1.5 meters.

Way pressure

34. The way pressure was about 86.5 tons per way, or 38.5 tons per square meter.

Launching

35. The launching weight (type IV) was 4,800 tons. Launching calculations revealed:

- a. A pressure of 30 tons per meter launching way over a distance of approximately 75 meters.
- b. A pressure of 120 tons per meter launching way over a distance of approximately 85 meters.

Cable crane installation

36. The pre-assembly area and the buildingways were to be serviced by one

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crane installation. The foundations for the pillars were completed. Erection of the pillars began in late 1952, but the heavy plating and profile iron were lacking. In any event, the northern section was to be in operation by the end of 1953. The length was to be 313.5 m. measured from center to center of the two vertical girder structure lines. The maximum height of the girder structure from ground to cableway connection was about 56.6 meters. The width of the cable crane installation over two buildingways 60 meters measured from center to center of steel girder. The minimum height from the top edge of the buildingway to the hook in the traverse is 30 meters.

37. Each buildingway was to be furnished with six cables for 10-ton trolleys so that a total of 50 tons could be lifted.

Plate and profile storage /Point 5, Enclosure (A)/

38. The plate and profile storage area joined the shipbuilding shop to the west. At either side it was bordered by railroad spurs which branched off the main railroad line and led alongside the shipbuilding shop and the buildingways towards the waterfront. After deduction of the space needed for thoroughfares and tracks, the usable storage area was 12,000sq. m.
39. The shipbuilding plates were stored in front of compartments A, B, and C of the shipbuilding shop in order to facilitate their transport to the respective machine tools for machining. The profiles were stored in front of shop compartment D, and could be brought from here to the annealing furnace and the profile section. The plates were stored upright in order to facilitate transportation, and to prevent heavy corrosion. The plates were piled according to their size and thickness; the profiles were also stored according to their dimensions.

Cranage /Point 6, Enclosure (A)/

40. Two similar bridge crane installations of five-ton lifting capacity each were planned for the entire storage area and were to be completed in the summer of 1953. They were used for discharging railroad cars and trucks; and other vehicles, for the loading of shop transportation facilities, and for the feeding of the straightening rollers in front of the shop as well. Both these installations were to be able to service an area of 145 x 120 m. with rounded corners (radius = 16 meters). If necessary, the working range of the crane installations could be increased up to the main road passing the west side of the shipbuilding shop at a distance of nearly 200 m. by extending the crane runways.
41. Each crane installation consisted of one bridge with a mobile swinging crane operating on overhead tracks; the technical data are as follows:
- Stationary runway (overhead tracks), solid wall construction, side trusses and wind breakers in frame girder structure. Double supports made of beams and profile rods = frame girder structure.

Span	36.0 meters
Height of crane tracks (runway) above ground	7.0 meters
Inside construction height	5.4 meters
Total length	96.0 meters
Runway length	88.0 meters

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Distance between supports	12.0 meters
Number of supports on either side of runway	8

b. Mobile bridge. Welded and riveted frame girder construction.

Span	36.0 meters
Width of bridge	4.0 meters
Total length of bridge	50.0 meters
Length of runway	41.0 meters
Height of carriers	3.2 meters
Number of rocker arms	4
Number of travelling wheels	8 (propelled)
Travelling speed	v = 20 meters/minute
Motor 25 KW, n=1,000, 40 % ED	

c. Mobile swinging crane. Solid wall and frame girder construction.

Lifting capacity	5 tons
Maximum radial range	16.0 meters
Minimum radial range	7.0 meters
Height of pulley above tracks	14.0 meters
Height of pulley above ground	25.0 meters
Height of trolley above tracks	12.0 meters
Height of trolley above ground	23.0 meters
Span	4.0 meters
Wheel base	5.2 meters
Number of travelling wheels	4
Lifting speed	v = 12.0 meters/minute
Travelling speed	v = 25.0 meters/minute
Swinging speed	v = 1.2 times/minute
Retracting time	two minutes
Motor 12 KW, n=1,000, 25 % ED	
Motor 10 KW, n=1,000, 40 % ED	
Motor 8 KW, n=1,000, 40 % ED	
Motor 5 KW, n=1,000, 25 % ED	

42. The various speeds were synchronized in such a way that the entire installation was able to handle sudden loads without doing damage.

Engine construction and other fitting-out workshops

43. Each of the nine workshops at the fitting-out quay was 75 m. long. The width was 25 m. so constructed to have the same crane dimensions as the shipbuilding shop. The height of the eaves was 9.5 meters, the height of the ridge was 12.0 meters. At the east and west sides of shops No. 1 through 4 and 6 through 10, gates of 3.5 meters height and 4.0 meters width were installed as truck entrances. In shop No. 5 a gate measuring five meters in height and four meters in width was installed through which a railroad spur was laid connecting with the main railroad net. In the west end of each shop, a separate three-story section for offices, dressing, and sanitary rooms was built; this section was 12.5 meters deep.

44. The shops were equipped with skylights and the lateral fields between the trusses were glassed. All of the workshops were to be or were already equipped with: air heaters (fresh and circulating air); side rooms, radiator-equipped; and a warm air heating system for the large gates. All shops were to be furnished compressed air connections and grinding stones.

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- a. Shop No. 1: Carpentry /Point 16, Enclosure (A)/ One story high. Was to be completed in the spring of 1953.
- b. Shop No. 2: Marine and auxiliary engines /Point 17, Enclosure (A)/ One story high. Was in operation since December 1952. It was serviced by one four-motor travelling crane of ten-ton lifting capacity and 22.6 meter gauge.
- c. Shop No. 3: Pipe fitter shop /Point 20, Enclosure (A)/ One story high. Was to be finished by the end of 1953. It was to be serviced by one ground-controlled three-motor travelling crane of one-ton lifting capacity and 22.6 m. gauge.
- d. Shop No. 4: Ship plumbing and mechanical workshops /Point 18, Enclosure (A)/ Two stories high. In operation since the end of 1952. Both the first and second floors were to be provided with one ground-controlled electrical hoist of about 750-kilogram lifting capacity, operating as bottom-flange trolley on an I-beam.
- e. Shop No. 5: Ship fitting shop and boiler smithy /Point 13, Enclosure (A)/ Extended from floor to roof. No ceiling. In operation since the end of 1951. A railroad spur led from the main railroad net through the entire shop to the east gate. The shop was serviced by one four-engine travelling crane of ten-ton lifting capacity and 22.6 m. gauge.
- f. Shop No. 6: Welding shop /Point 14, Enclosure (A)/ One story high with elaborate gable structure. For water tightness it was constructed with a concrete ceiling supported by concrete pillars. In operation since the end of 1951. It was serviced by two ground-controlled electrical hoists of about 750-kilogram lifting capacity, operating as bottom-flange trolleys on an I-beam.
- g. Shop No. 7: Electrical shop /Point 19, Enclosure (A)/ Was to be finished by the end of 1953. Two stories high. First floor: 6.5 meters high; on the north side, a travelling crane of three-ton lifting capacity was to be mounted. Second floor adjacent to the west gate, a freight-lift of ten-ton lifting capacity was to be installed. This shop was also to house the outside firms VEM and RFT.
- h. Shop No. 8: Paint and insulation shops Was to be two stories high in planning stage.
- i. Shop No. 9: Rigger and saddler shops /Point 15, Enclosure (A)/ Two stories high. In operation since the end of 1951. First floor: rigger shop. Second floor: saddler shop, six saddler sewing machines and conventional saddling equipment was installed.

Warehouse

- 45. A one five-story warehouse of 80 x 25 m. was to have been completed in 1952. The first section was finished at the end of 1952. I believe that the south section will not be completed until the end of 1953. The first floor had to be able to withstand a ground load of 2,500 kg. per square meter, and the upper floors a load of 1,000 kg. per square meter. Adequate transport connections, i.e., a lift for heavy, and a

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lift for light loads will be required. A transverse material handling crane of five-ton lifting capacity and bins for profile iron was also to be installed. It was planned that the entire control and material testing section be accommodated in one wing of the building.

Dredging drydock

46. Construction of drydocking installations just north of the building was planned, but extensive investigations showed that it was not feasible and the idea was abandoned.

Quay facilities

47. Quay installations were not finished. The southern part of the Warnow quay (Point 24, Enclosure (A)) was begun in 1951, and by the end of 1952, 100 running meters were completed. Quayage in the harbor basin was begun in 1950. Fifty meters were completed in 1950, 200 in 1951, and the rest by February 1952. Upon completion of the quayage construction, it was to extend north from the harbor basin along the channel (as shown on Enclosure (C)). The depth of the water along the Warnow Quay was six meters; the harbor basin, turning basin, and the quayage along the channel were to be eight meters deep. As the quays were completed and where required, jib cranes with the following characteristics were to be installed.

- a. Portal jib swinging crane with curve travelling chassis.
Lifting capacity three tons from 28 to 10 meters radial range. Lifting capacity five tons from 20 to 10 meters radial range. Working speed and efficiency of motor:

- (1) Lifting three ton load: $v=40$ meters per minute
lifting five ton load: $v=24$ meters per minute
 $N=24.5$ KW at 25 % ED
 $n=950$ RPM
- (2) Whipping five ton load: $v=30$ meters per minute
 $N=7$ KW at 25 % ED
 $n=950$ RPM
- (3) Swinging five ton load: $v=1$ times per minute
 $N=15.3$ KW at 40 % ED
 $n=950$ RPM
- (4) Travelling five ton load: $v=28$ meters per minute
 $N=two\ times\ 13.5$ KW at 25 % ED
 $n=950$ RPM

- (5) Miscellaneous data

Track radius: about 50 meters
Span of portal: 8 meters
Inside height under portal: about 7.5 meters
Wheel base: $1.08 + 5.92 + 1.08$ meters
Distance between upstream rail and rotation center of crane: 3 meters
Distance between upper edge of rail and beam fulcrum: about 15.4 meters
Distance between upper edge of rail and beam tip: about 32 or 44.6 meters

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Height of hook at 28 meters radial range: about 29 meters
 Height of hook at 10 meters radial range: about 41.6 meters
 Lift below upper edge of rail: about 10 meters
 Backward overhang: about 4.4 meters

Floating crane

48. One floating crane costing 1,500,000 DM's (East), having a lifting capacity of 80 to 100 tons at 30 meters radial range, was planned for 1952 and ordered in 1951. However, I do not know whether it was delivered.

Transformer station including compressor installation [Point 7, Enclosure (A)]

49. The building proper was completed in 1951 and necessary equipment installed by mid-1952. According to requirements, the total connected load of the new and existing shipyard facilities was to be about 6,000 to 8,000 KW after the completion of all installations. The power was supplied via the old transformer station [shown on Enclosure (C)] producing 1,890 KW and via the new transformer station with 3,000 KW. This means that either the old transformer station was to be equipped with more efficient transformers (5,000 KW each), or an additional station was to be built in order to compensate for the shortage of 1,000 to 3,000 KW. High tension power was supplied from the electric power plant Bramow via Gross-Klein over a cable 6 KV, 3 x 95 sq. mm. copper, or 3 x 70 sq. mm. copper, to the new transformer station. The second power supply was effected from the Warnemuende transformer station via a cable 6 KV, 3 x 120 sq. mm. aluminum, to the old transformer station. On the high tension side, the old and new transformer stations were connected in order to render power supply possible from both sources at one time. The electric power required until 1953 could be supplied by the old transformer station with its output of 1,890 KW, and the new station with an output of 3,000 KW. After that, the transformer station would have to be amplified. The feeder cable via Gross-Klein would then possibly have to be enforced, i.e., the feeder tension increased from six to 15 KW.

Oxygen plant

50. The Buetzow oxygen works were to furnish a facility capable of supply the shipyard to 100 %.

Heating steam supply

51. The old boiler house accommodated two cylindrical boilers with a total output of nine tons of steam per hour. To this steam plant, two water tube boilers of a total of 24 tons of steam per hour were added in 1951. At 12 atmospheres absolute pressure, the output of the entire boiler house was 15 millions thermal units per hour.
52. The repair work section required about 7.5 million thermal units per hour, and the new construction facilities were to require 22.5 million thermal units per hour.
53. In order to cover the steam consumption of the entire shipyard in the future, a second boiler house was built by the end of 1952. The old and new together were capable of producing the required amount of heat.

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Administration office

54. By reason of the increasing labor force, the enlargement of the old administration building was urgently required in order to gain space for additional 800 employees. The expansion was completed in 1950.

Enlargement of the messhall

55. The messhall which was 76 x 12 meters was enlarged to 90 x 30 meters in 1952 in order that all the workers could be fed during lunchtime.

Dispensary [Point 10, Enclosure (A)]

56. The enlargement of the dispensary was completed in 1951. An annex of 66 x 16 meters was added in order to meet requirements.

Office building accommodating welfare and political sections

57. This structure was to be one-story high and was to measure approximately 45 x 12 meters. It was half completed by end of 1952.
58. The building was to house: BGL, SED group of the plant, German Soviet Friendship Association, welfare section, library, poster painting shop, plant sport association ANKER, FDJ (youth organization), HO and KONSUM (co-operative) stores, and large rooms for political indoctrination and conferences.

Garage

59. One large garage to accommodate about 10 trucks, five sedans, and two buses was to be built near the warehouse.

Thermal power plant

60. It was planned to equip the second boiler house as a thermal power plant in order to be independent from outside supply in case of emergency.

Fire fighting system

61. I believe that a new fire fighting system within the existing shipyard area, including the necessary pumping facilities and various fire hydrants, all have to be built. The use of the existing water lines would not be feasible due to insufficient pressure.

ARTISTS CONCEPTION OF THE COMPLETED WERNOW SHIPYARD [See Enclosure (D)]

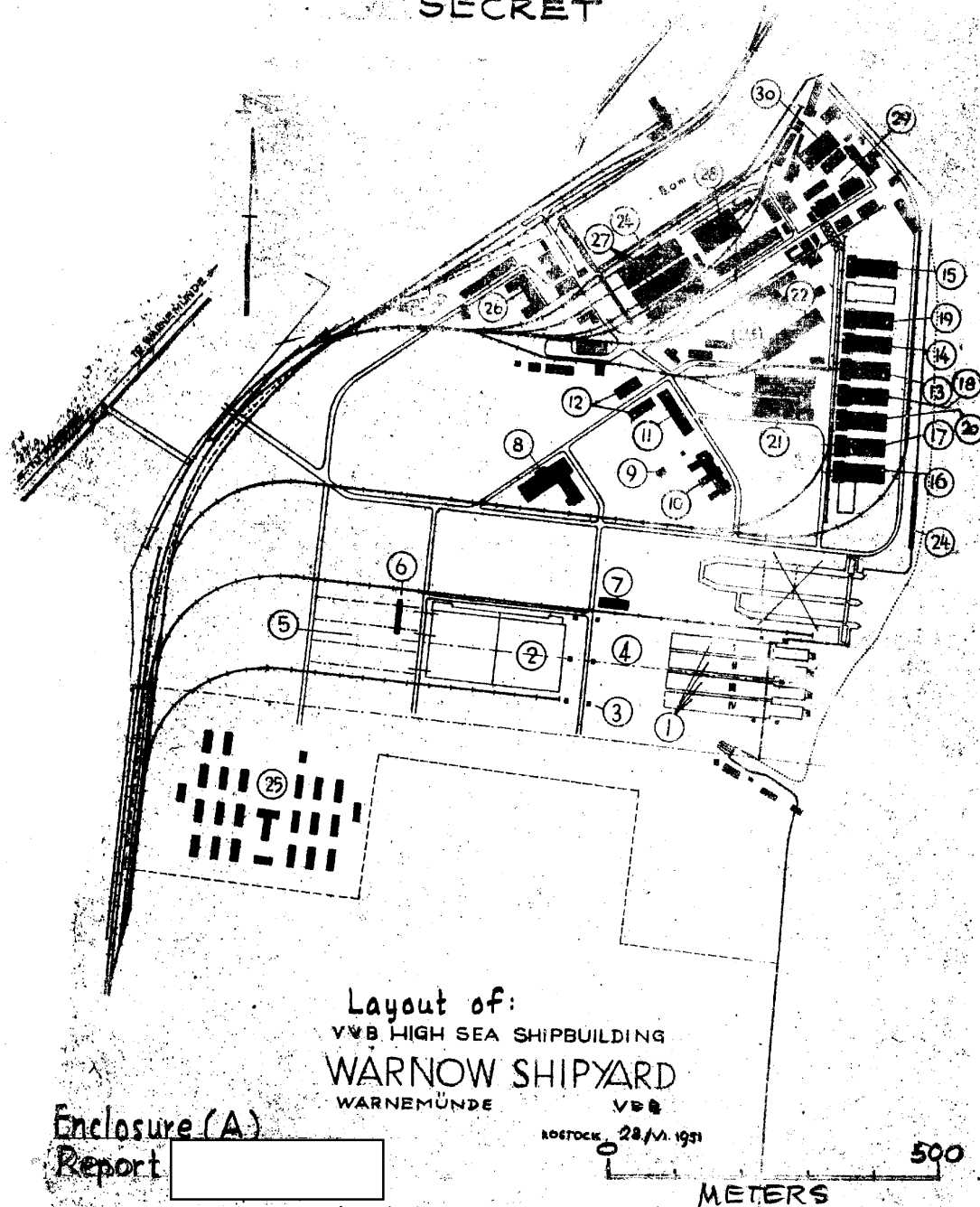
- ENCLOSURE (A): Layout Warnow Shipyards
- ENCLOSURE (B): Buildingways Dimensions and Layout
- ENCLOSURE (C): Quayage Along Channel and Harbor Basin
- ENCLOSURE (D): Artist's Conception of the Completed Warnow Shipyards

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25X1A

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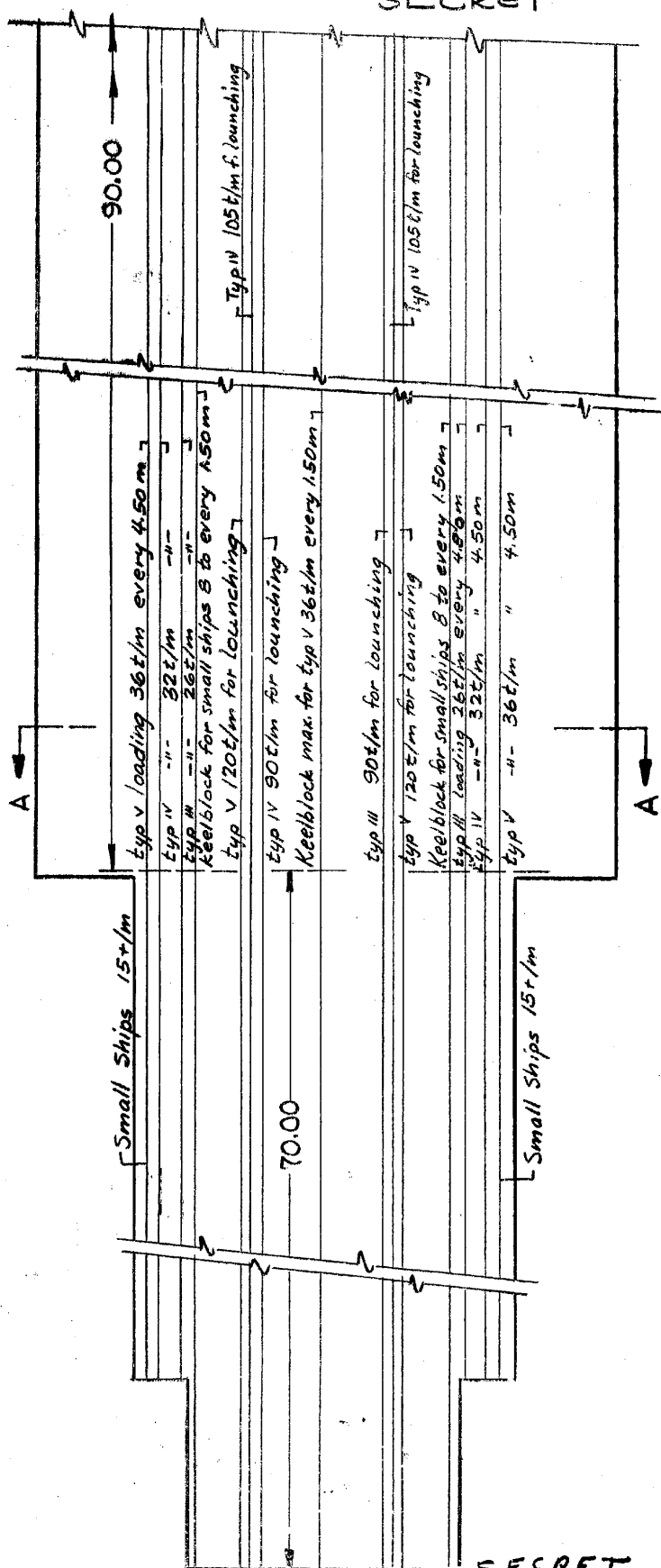
Enclosure (A)
Report

SECRET

- 15 -

SECRET

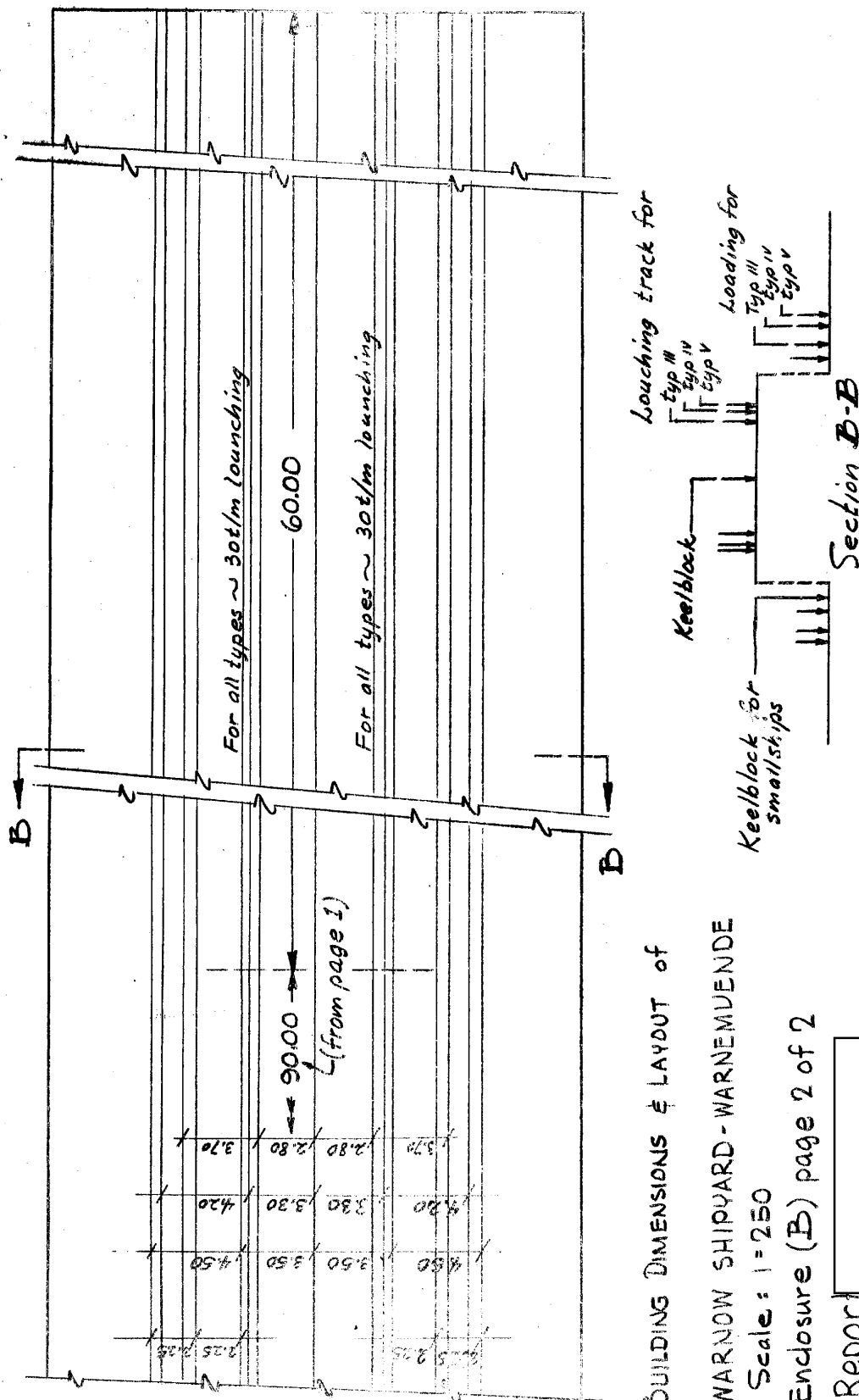
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Building Dimensions & Layout of
 WARNOW SHIPYARD-WARNEMUENDE
 Scale: 1=250
 Enclosure (B) page 1 of 2
 Report



25X1A



BUILDING DIMENSIONS & LAYOUT OF
WARNOV SHIPYARD - WARNEMLIVENDE
Scale: 1=250
Enclosure (B) page 2 of 2

Report

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Length of the quay wall located in the harbor - 614m

Turning Basin

SECRET

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Passage

Berth 6

Berth 5

Berth 3

Berth 2

New Station

Quay

R.R. Station

QUAY WALL - WARNEMUENDE

QUAYAGE ALONG CHANNEL & HARBOR BASIN

100
METERS

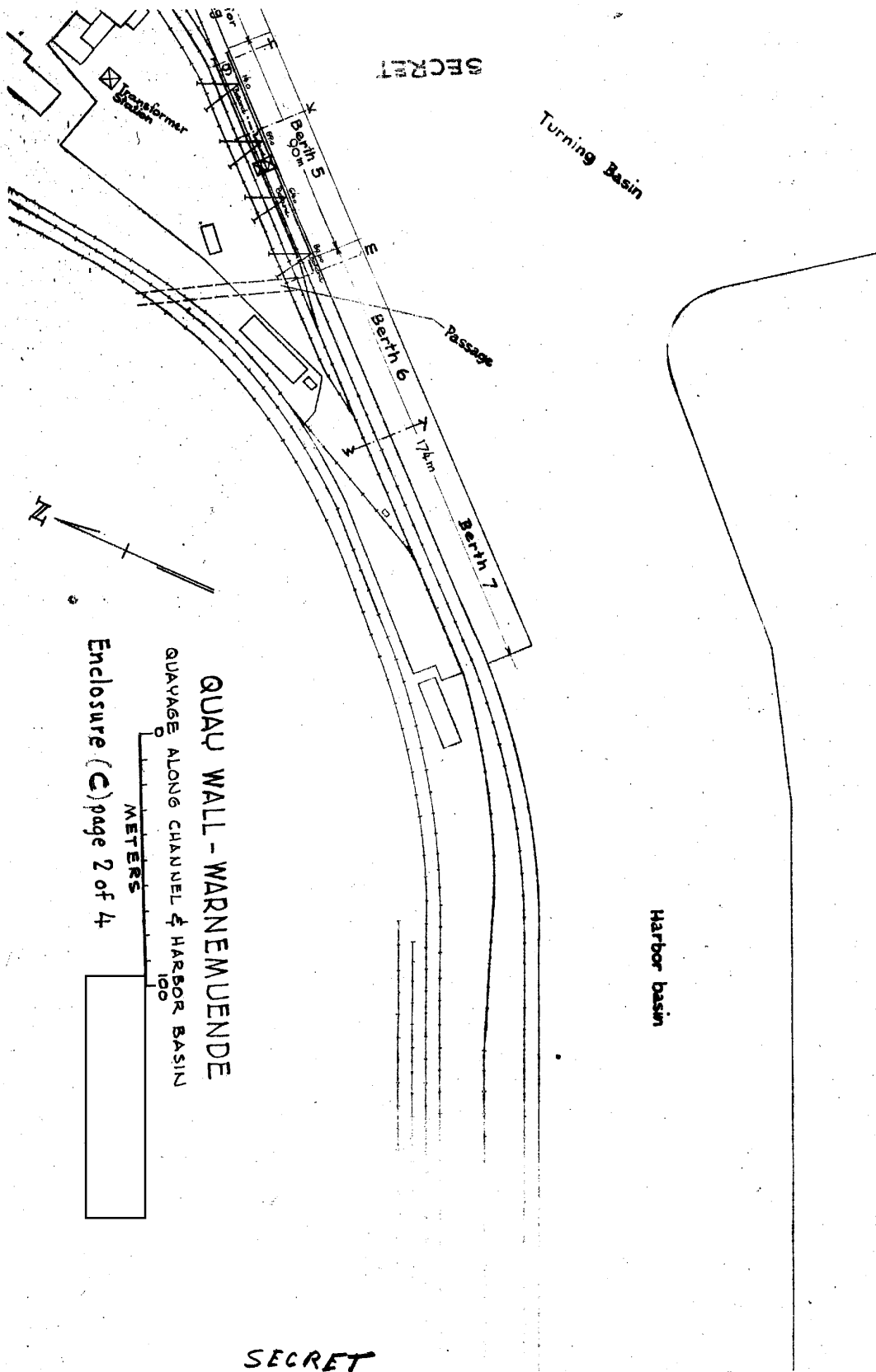
Enclosure (C) page 1 of 4

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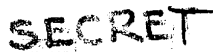
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Enclosure (C) page 2 of 4



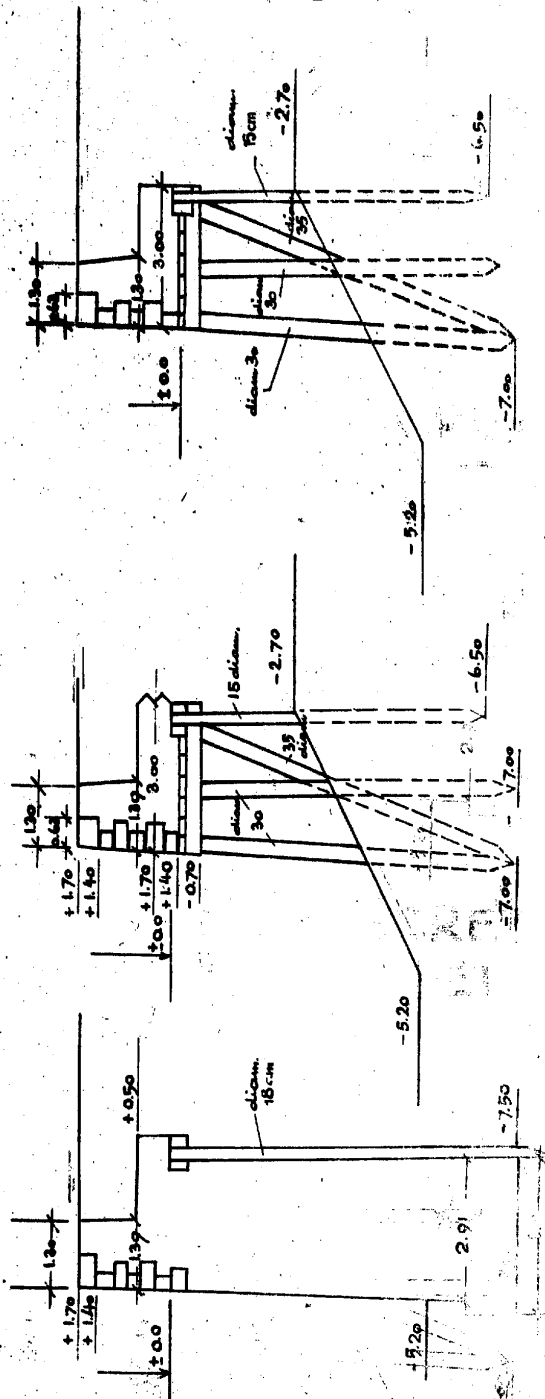
QUAY WALL - WARNEMUENDE

1000

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Enclosure
REPORT NO

Cross section $w-y$



Cross section

ENCLOSURE (C) PAGE 4 of 4

Figure 3. *Effect of the concentration of the initiator on the polymerization of 2,2,2-trifluoroethyl acrylate in the presence of 10% of the monomer.*

SECRET

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25X1A

SECRET



CONFIDENTIAL

Artist's conception of the Completed WARNOV SHIPYARD

Enclosure (D) Report

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